CLAIMS

1. A method for allocating time slots to channels in a time division multiplexed network in which circuit-switched channels are established to comprise one or more respective time slots in a recurrent frame of said network, said method comprising the steps of:

associating a time slot allocated to a channel with a selected level, of at least two available levels, of priority; and

determining whether or not to deallocate said time slot from said channel based upon a comparison of said selected level of priority and a level of priority associated with a request for a time slot for another channel.

2. A method as claimed in claim 1, wherein said determining step comprises determining to dellacate said time slot from said channel if said request is associated with a higher level of priority than said selected level of priority.

3. A method as claimed in claim 1 or 2, wherein said determining step comprises determining to deallocate said time slot from said channel if said request is a request for a time slot to be allocated to another channel with a higher level of priority than said selected level of priority.

4. A method as claimed in claim 1, 2, or 3, wherein said step of determining to deallocate said time slot from said channel is performed only if there are no non-allocated slots available.

5. A method as claimed in any one of the preceding claims, wherein said step of determining to deallocate said time slot from said channel is performed only if the

level of priority associated with said time slot is lower than a highest level of priority.

6. A method as claimed in any one of the preceding claims, wherein said step of determining to deallocate said time slot from said channel is further based upon an evaluation regarding to which channel a time slot was last allocated.

7. A method as claimed in any one of the preceding claims, wherein said step of determining to deallocate said time slot from said channel is further based upon an evaluation regarding to which channel a time slot has been allocated the longest period of time.

8. A method as claimed in any one of the preceding claims, wherein said step of determining to deallocate said time slot from said channel is further based upon an evaluation regarding from which channel a time slot was last deallocated.

9. A method as claimed in any one of the preceding claims, wherein said step of determining to deallocate said time slot from said channel is further based upon an evaluation regarding from which channel a time slot should be deallocated in order to counteract time slot fragmentation on the bitstream of interest.

10. A method as claimed in any one of the preceding claims, wherein said associating step comprises associating all time slots allocated to said channel with the same selected level of priority.

11. A method as claimed in any one of the preceding claims, wherein said associating step comprises associating said channel with said selected level of priority,

thereby associating each time slot allocated to said channel with the same selected level of priority.

12. A method as claimed in any one of claims 1-9, wherein said associating step comprises associating different time slots allocated to said channel with different levels of priority.

13. A method as claimed in any one of claims 1-9, wherein said associating step comprises associating time slots allocated to said channel over a first portion of said network with a selected level of priority and associating time slots slots allocated to said channel over another portion of said network with another selected level of priority.

14. A method as claimed in any one of the preceding claims, wherein said associating step comprises changing the level of priority associated with a time slot allocated to said channel.

15. A method as claimed in any one of the preceding claims, comprising the step of determining the priority by which said channel is to be re-established in case of channel failure based upon said selected level over priority.

16. A method as claimed in any one of the preceding claims, comprising the step of determining a degree of redundancy requested for said channel based upon said selected level over priority.

17. A method as claimed in any one of the preceding claims, wherein said associating step comprises selecting said selected level of priority based upon the identity of a physical or virtual port or interface to/from which traffic pertaining to said channel is delivered.

18. A method as claimed in any one of the preceding claims, wherein said associating step comprises selecting said selected level of priority based upon an identification of the type of application that traffic to be transported in said channel pertains to.

19. A method as claimed in any one of the preceding claims, wherein said associating step comprises selecting said selected level of priority based upon priority information derived from overlying network protocols.

20. A method as claimed in any one of the preceding claims, comprising transmitting information on said selected level of prioriy associated with said time slot to one more more other nodes of the network in order for said other nodes to be able to switch said channel taking said level of priority into consideration.

21. A method for allocating time slots to a channel in a time division multiplexed network in which circuit-switched channels are established to comprise one or more respective time slots in a recurrent frame of said network, said method comprising the steps of:

requesting a time slot for a channel in need of bandwidth, said request being associated with a level of priority;

allocating to said channel a time slot put at said channel's disposal as a result of said request; and

associating said time slot allocated to said channel with a selected level of priority.

22. A method as claimed in claim 21, wherein said selected level of priority is different than the level of priority associated with said request.

23. A method as claimed in claim 21, wherein said selected level of priority is the same as the level of priority associated with said request.

24. An apparatus for allocating time slots to channels in a time division multiplexed network in which circuit-switched channels are established to comprise one or more respective time slots in a recurrent frame of said network, said apparatus comprising:

priority assignment means (182) for associating a time slot allocated to said channel with a selected level, of at least two available levels, of priority; and

slot allocating means (184) provided to receive a request for time slots and to deterine to deallocate said time slot from said channel based upon a comparison of said selected level of priority and a level of priority associated with said request.

25. An apparatus as claimed in claim 24, comprising a slot utilization table (176) indicating the selected level of priority associated with said time slot.

26. An apparatus as claimed in claim 25, wherein said priority assignment means is arranged to write information designating that said time slot allocated to said channel is associated with said selected level of priority.

27. An apparatus for allocating time slots to a channel in a time division multiplexed network in which circuit-switched channels are established to comprise one or more respective time slots in a recurrent frame of said network, said apparatus comprising:

slot allocating means (184) provided to request a time slot for a channel in need of bandwidth, said request referring to a selected level of priority, and to

allocate to said channel a time slot put at disposal as a result of said request.

28. An apparatus as claimed in any one of claims 24-27, wherein said apparatus manages time slot allocation/-deallocation on behalf of several nodes of said network.

29. Use of a method as claimed in any one of claims 1-23, or an apparatus as claimed in any one of claims 24-28, for specifying different traffic service classes based upon said priority levels when operating a communication network.

30. Use of a method as claimed in any one of claims 1-23, or an apparatus as claimed in any one of claims 24-28, for providing channel prioritization based upon said priority levels when interconnecting ports of a data switching or routing apparatus.